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3628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/532,080	BOUTIN ET AL.	
	Examiner	Art Unit	
	George Chen	3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-16,18,19,21,22 and 24-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-16, 18-19, 21-22, 24-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. DETAILED ACTION

2. This communication is a non-final action in response to amendment filed on 03/23/2010. Claims 9-16, 18-19, 21-22, 24-29 are pending with claims 9, 13, 15, 16 amended and claim 29 added.

3. Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 9-16, 18, 21, 24, 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shropshire (WO 02/059801 A2) in view of Alibozek (Alibozek, Tim, Smart software builds a better harness, Machine Design, vol 70, no 8, pages 89-92, 1998), further in view of Yamashita (US 6519750 B2), even further in view of Yoon (US 6272387 B1).**

6. As per claim 9, Shropshire discloses a method for synthesis of a routing with a design tool stored in a memory on a computer, comprising:

- ✓ b) obtaining parameters of:
  - o different configurations of the service variants and the calculator variants (Shropshire, page 6, design is split into modules that roughly map to the options available to the customer. there is a virtual parent harness which includes all possible modules)

- cost characteristics of components stored and weighted as a function of their respective installation proportions (Shropshire, page 7, amount of material needed is a function of the modules chosen and can usually be approximated),
- partial or complete mapping of service variants onto calculator variants (Shropshire, page 6, design is split into modules that roughly map to the options available to the customer. there is a virtual parent harness which includes all possible modules),

✓ c) identifying valid routings including routings between the service variants and the calculator variants (Shropshire, page 5,module data is created and stored for modules represents requirements for a plurality of options. wiring harness design is analyzed and module data is created automatically);

✓ d) evaluating, via a processor of the computer, routing cost of the valid routings for each configuration (Shropshire, page 7, amount of material needed is a function of the modules chosen and can usually be approximated); and

Shropshire does not explicitly disclose

a) dividing the vehicle into a plurality of zones, each of the zones including service variants and calculator variants

a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one and

e) determining, via processor of the computer the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.

Alibozek teaches identifying all possible occurrences (Alibozek, page 92, a smart algorithm explores all possible paths) and determining optimized routing (Alibozek, page 92, algorithms derived from user input data automatically optimize the wire harness for its environment by balancing cost).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine method of synthesis routing with determining optimized routing and for the purpose to tailor automobiles to their own specification and accelerate design process (Shropshire: page 3; Alibozek: page 89).

Yamashita teaches f) displaying, in a first view on a display screen of the computer, the plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another, the plurality of zones schematically represent a product for which the routing is synthesized, and in the first view shows the valid routing between the zones without showing the service variants , the calculator variants, and the valid routing within each of the zones between the service variant and the calculator variants (see at least Yamashita, Fig. 2, wherein cells and lines are routed after power and ground lines added among functional blocks. See Fig. 3-5 for the process and that the lines among terminals are not shown but connectivity among sections are shown because some are indicated as prohibited);

One of ordinary skill in the art would have recognized that applying the known technique of Yamashita to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yamashita to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying displaying, in a first view on a display screen of the computer, a plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another, the plurality of zones schematically represent a product for which the routing is synthesized, and the routing between the zones are not shown in the first view to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more efficient design process for electric routing.

Yoon teaches

a) dividing the vehicle into a plurality of zones, each of the zones including service variants and calculator variants (see at least Yoon, Fig. 7, see the global map above the scale indicator 50-80, wherein the vehicle is mapped out into different zones and users can click on the global map to zoom in)

g) displaying, in a second view on the display screen, the valid routing between the service variants and the calculator variants within a single zone that minimize the mean of the single zone of the plurality of zones, and the second view is generated by selecting the single

zone from the plurality of zones displayed in the first view (see Yoon Fig. 8, wherein user is able to zoom in to specific component to see the particular PIN location to the nearby components)

One of ordinary skill in the art would have recognized that applying the known technique of Yoon to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yoon to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying dividing and displaying vehicle zones and routings to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more user friendly routing design.

7. As per claim 10, Shropshire discloses a method according to claim 9, but does not explicitly disclose wherein a quality characteristic expressed as breakdowns per million is considered to compare respective measures of two candidate architectures for a product plan. Alibozek teaches using quality characteristic to compare respective measures of two candidate architectures for a product plan (Alibozek, page 92, the choice of wire, connectors, and associated parts can have a significant impact of harness costs, quality, and weight. software can explore trade-offs using a routine and makes suggestions to improve harness).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine method of synthesis routing with using quality characteristic to compare respective measures of two candidate architectures for a product plan for the purpose to

tailor automobiles to their own specification and accelerate design process (Shropshire: page 3; Alibozek: page 89).

8. As per claim 11 Shropshire discloses a method according to claim 10, but does not explicitly disclose wherein one of the quality characteristics considered is weight. Alibozek teaches using weight to compare respective measures of two candidate architectures for a product plan (Alibozek, page 92, the choice of wire, connectors, and associated parts can have a significant impact of harness costs, quality, and weight. software can explore trade-offs using a routine and makes suggestions to improve harness).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine method of synthesis routing with using weight to compare respective measures of two candidate architectures for a product plan for the purpose to tailor automobiles to their own specifications and accelerate design process (Shropshire: page 3; Alibozek: page 89).

9. As per claim 12, Shropshire discloses a method according to claim 9, but does not explicitly disclose further comprising automatically calculating a cost of assembly of electrical and electronic architecture as a function of a cost of assembly of a strand on a zone of the plurality of zones, of a cost of assembly of a connector on a zone boundary or on a zone of the plurality of zones, of a cost of assembly of a calculator on a zone of the plurality of zones, of a cost of assembly of a sensor or actuator on a zone of the plurality of zones, and of a cost of connection of a connector between zones or in a zone of the plurality of zones. Shropshire,

however, discloses calculating cost by calculating adding costs of individual modules of a plurality of modules (Shropshire, page 7, cost of the individual modules are added together).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to make the obvious variation from adding cots of individual models to using cost function of strand, connector, calculator, sensor, actuator and/or connector because each of the stand, connectors, are merely modules in the cost structure.

10. As per claim 13, Shropshire discloses a method according to claim 9, but does not explicitly disclose further comprising synthesizing optimal routing for all configurations, by repeating operations a) to d), criterion for minimization being a cost composed of: an estimated recurrent cost of parts, an estimate of quality cost in anticipation of the cost of repair per zone of the plurality of zones, this quality cost being increased by a constant cost depending on the zone and its ease of access, an estimate of the cost of weight, taking into account mechanical wear and consumption related to an increase of the weight of the vehicle, and/or an estimate of the cost of assembly. Alibozek teaches an estimate of the cost of weight, taking into account mechanical wear and consumption related to an increase of the weight of the vehicle (Alibozek, page 91, Weight is often an issue in vehicles, but it also determines how to fasten a harness to a chisis, for example, large harnesses that are not fastened securely can stress connection points and break under low-level shock and vibration).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine method of synthesis routing with an estimate of the cost of weight, taking into account mechanical wear and consumption related to an increase of the weight of the

vehicle for the purpose to tailor automobiles to their own specifications and accelerate design process (Shropshire: page 3; Alibozek: page 89).

11. As per claim 14, Shropshire further discloses a method according to claim 9, wherein the synthesis of the routing for the product is an electrical architecture of a newly created product or an electrical architecture modified relative to a previous architecture (Shropshire, page 6, a core harness and a set of option modules).

12. As per claim 15, Shropshire discloses a computer readable storage medium including computer executable instructions to synthesize a routing, Wherein the instructions, when executed by a processor, cause the processor to perform a method, comprising:

- ✓ b) obtaining parameters of:
  - different configurations of the service variants and the calculator variants (Shropshire, page 6, design is split into modules that roughly map to the options available to the customer. there is a virtual parent harness which includes all possible modules) and a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one,
  - cost characteristics of components stored and weighted as a function of their respective installation proportions (Shropshire, page 7, amount of material needed is a function of the modules chosen and can usually be approximated),

- partial or complete mapping of service variants onto calculator variants (Shropshire, page 6, design is split into modules that roughly map to the options available to the customer. there is a virtual parent harness which includes all possible modules),

✓ c) identifying valid routings including routings between the service variants and the calculator variants (Shropshire, page 5, wiring harness design is analyzed and module data is created automatically);

✓ d) evaluating routing cost of the valid routings for each configuration (Shropshire, page 7, amount of material needed is a function of the modules chosen and can usually be approximated); and

Shropshire does not explicitly disclose

a) dividing the vehicle into a plurality of zones, each of the zones including service variants and calculator variants

a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one and

e) determining, via processor of the computer the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.

Alibozek teaches identifying all possible occurrences (Alibozek, page 92, a smart algorithm explores all possible paths) and determining optimized routing (Alibozek, page 92, algorithms derived from user input data automatically optimize the wire harness for its environment by balancing cost).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine method of synthesis routing with determining optimized routing and for the purpose to tailor automobiles to their own specification and accelerate design process (Shropshire: page 3; Alibozek: page 89).

Yamashita teaches f) displaying, in a first view on a display screen of the computer, the plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another, the plurality of zones schematically represent a product for which the routing is synthesized, and in the first view shows the valid routing between the zones without showing the service variants , the calculator variants, and the valid routing within each of the zones between the service variant and the calculator variants (see at least Yamashita, Fig. 2, wherein cells and lines are routed after power and ground lines added among functional blocks. See Fig. 3-5 for the process and that the lines among terminals are not shown but connectivity among sections are shown because some are indicated as prohibited);

One of ordinary skill in the art would have recognized that applying the known technique of Yamashita to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yamashita to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying displaying, in a first view on a display screen of the computer, a plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view

includes a guide to indicate how the plurality of zones are situated relative to one another, the plurality of zones schematically represent a product for which the routing is synthesized, and the routing between the zones are not shown in the first view to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more efficient design process for electric routing.

Yoon teaches

a) dividing the vehicle into a plurality of zones, each of the zones including service variants and calculator variants (see at least Yoon, Fig. 7, see the global map above the scale indicator 50-80, wherein the vehicle is mapped out into different zones and users can click on the global map to zoom in)

g) displaying, in a second view on the display screen, the valid routing between the service variants and the calculator variants within a single zone that minimize the mean of the single zone of the plurality of zones, and the second view is generated by selecting the single zone from the plurality of zones displayed in the first view (see Yoon Fig. 8, wherein user is able to zoom in to specific component to see the particular PIN location to the nearby components)

One of ordinary skill in the art would have recognized that applying the known technique of Yoon to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yoon to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying dividing and displaying vehicle zones and routings to Shropshire would have been

recognized by one of ordinary skill in the art as resulting in an improved system that would allow more user friendly routing design.

13. As per claim 16, Shropshire discloses a device for synthesis of a routing, comprising:

- ✓ b) means for obtaining parameters of:
  - different configurations of the service variants and the calculator variants and a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one (Shropshire, page 6, design is split into modules that roughly map to the options available to the customer. there is a virtual parent harness which includes all possible modules),
  - cost characteristics of components stored and weighted as a function of their respective installation proportions (Shropshire, page 7, amount of material needed is a function of the modules chosen and can usually be approximated), and
  - partial or complete mapping of service variants onto calculator variants (Shropshire, page 6, design is split into modules that roughly map to the options available to the customer. there is a virtual parent harness which includes all possible modules);
- ✓ c) means for identifying valid routings including routings between the service variants and the calculator variants (Shropshire, page 5, wiring harness design is analyzed and module data is created automatically);

- ✓ d) means for evaluating routing cost of the valid routings for each configuration (Shropshire, page 7, amount of material needed is a function of the modules chosen and can usually be approximated);

Shropshire does not explicitly disclose

a) dividing the vehicle into a plurality of zones, each of the zones including service variants and calculator variants

a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one and

e) determining, via processor of the computer the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.

Alibozek teaches identifying all possible occurrences (Alibozek, page 92, a smart algorithm explores all possible paths) and determining optimized routing (Alibozek, page 92, algorithms derived from user input data automatically optimize the wire harness for its environment by balancing cost).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine method of synthesis routing with determining optimized routing and for the purpose to tailor automobiles to their own specification and accelerate design process (Shropshire: page 3; Alibozek: page 89).

Yamashita teaches f) displaying, in a first view on a display screen of the computer, the plurality of zones into which the service variants and the calculator variants are grouped, wherein

the first view includes a guide to indicate how the plurality of zones are situated relative to one another, the plurality of zones schematically represent a product for which the routing is synthesized, and in the first view shows the valid routing between the zones without showing the service variants , the calculator variants, and the valid routing within each of the zones between the service variant and the calculator variants (see at least Yamashita, Fig. 2, wherein cells and lines are routed after power and ground lines added among functional blocks. See Fig. 3-5 for the process and that the lines among terminals are not shown but connectivity among sections are shown because some are indicated as prohibited);

One of ordinary skill in the art would have recognized that applying the known technique of Yamashita to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yamashita to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying displaying, in a first view on a display screen of the computer, a plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another, the plurality of zones schematically represent a product for which the routing is synthesized, and the routing between the zones are not shown in the first view to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more efficient design process for electric routing.

Yoon teaches

a) dividing the vehicle into a plurality of zones, each of the zones including service variants and calculator variants (see at least Yoon, Fig. 7, see the global map above the scale indicator 50-80, wherein the vehicle is mapped out into different zones and users can click on the global map to zoom in)

g) displaying, in a second view on the display screen, the valid routing between the service variants and the calculator variants within a single zone that minimize the mean of the single zone of the plurality of zones, and the second view is generated by selecting the single zone from the plurality of zones displayed in the first view (see Yoon Fig. 8, wherein user is able to zoom in to specific component to see the particular PIN location to the nearby components)

One of ordinary skill in the art would have recognized that applying the known technique of Yoon to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yoon to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying dividing and displaying vehicle zones and routings to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more user friendly routing design.

14. As per claim 18, Shropshire discloses a method according to claim 9, Yamashita teaches wherein the displaying in the second view includes prohibited subzones which represent a portion of the product through which wires cannot be passed such that the valid routings do not

pass through the prohibited subzones (see at least Yamashita, column 5, line 10-25, defining prohibited areas in each of the stacked wiring layers).

One of ordinary skill in the art would have recognized that applying the known technique of Yamashita to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yamashita to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying wherein the displaying in the second view includes prohibited subzones which represent a portion of the product through which wires cannot be passed such that the valid routings do not pass through the prohibited subzones to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more efficient design process for electric routing.

15. As per claim 21, Shropshire discloses a method according to claim 15, Yamashita teaches wherein the displaying in the second view includes prohibited subzones which represent a portion of the product through which wires cannot be passed such that the valid routings do not pass through the prohibited zones (see at least Yamashita, column 5, line 10-25, defining prohibited areas in each of the stacked wiring layers).

One of ordinary skill in the art would have recognized that applying the known technique of Yamashita to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yamashita to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art

demonstrated by the references applied shows the ability to incorporate such process. Further, applying wherein the displaying in the second view includes prohibited subzones which represent a portion of the product through which wires cannot be passed such that the valid routings do not pass through the prohibited subzones to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more efficient design process for electric routing.

16. As per claim 24, Shropshire discloses a device according to claim 15, Yamashita teaches wherein the displaying in the second view includes prohibited subzones which represent a portion of the product through which wires cannot be passed such that the valid routings do not pass through the prohibited subzones (see at least Yamashita, column 5, line 10-25, defining prohibited areas in each of the stacked wiring layers).

One of ordinary skill in the art would have recognized that applying the known technique of Yamashita to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Yamashita to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying wherein the displaying in the second view includes prohibited subzones which represent a portion of the product through which wires cannot be passed such that the valid routings do not pass through the prohibited subzones to Shropshire would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow more efficient design process for electric routing.

17. As per claim 26, Shropshire discloses a method according to claim 9, Alibozek teaches wherein the obtaining different parameters includes displaying on the display screen a user interface for the design tool including a hierarchical list including the service variants from which a user can select a particular service variant from the service variants and a graphical zone in which a user can enter a desired configuration of the particular service variant (see at least Alibozek, page 92, see the Figure on upper left corner which has a dropdown hierarchical list of service variants and graphical user interface for user to enter desired configuration).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine device of synthesis routing with wherein the obtaining different parameters includes displaying on the display screen a user interface for the design tool including a hierarchical list including the service variants from which a user can select a particular service variant from the service variants and a graphical zone in which a user can enter a desired configuration of the particular service variant for the purpose to tailor automobiles to their own specification and accelerate design process (Shropshire: page 3; Alibozek: page 89).

18. As per claim 27, Shropshire discloses a computer readable storage medium according to claim 15, Alibozek teaches wherein the obtaining different parameters includes displaying on the display screen a user interface for the design tool including a hierarchical list including the service variants from which a user can select a particular service variant from the service variants and a graphical zone in which a user can enter a desired configuration of the particular service variant (see at least Alibozek, page 92, see the Figure on upper left corner which has a dropdown

hierarchical list of service variants and graphical user interface for user to enter desired configuration).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine device of synthesis routing with wherein the obtaining different parameters includes displaying on the display screen a user interface for the design tool including a hierarchical list including the service variants from which a user can select a particular service variant from the service variants and a graphical zone in which a user can enter a desired configuration of the particular service variant for the purpose to tailor automobiles to their own specification and accelerate design process (Shropshire: page 3; Alibozek: page 89).

19. As per claim 28, Shropshire discloses a device according to claim 16, Alibozek teaches wherein the obtaining different parameters includes displaying on the display screen a user interface for the design tool including a hierarchical list including the service variants from which a user can select a particular service variant from the service variants and a graphical zone in which a user can enter a desired configuration of the particular service variant (see at least Alibozek, page 92, see the Figure on upper left corner which has a dropdown hierarchical list of service variants and graphical user interface for user to enter desired configuration).

Therefore, it would have been obvious for one with ordinary skill in the art at the time of the invention to combine device of synthesis routing with wherein the obtaining different parameters includes displaying on the display screen a user interface for the design tool including a hierarchical list including the service variants from which a user can select a particular service variant from the service variants and a graphical zone in which a user can enter a desired

configuration of the particular service variant for the purpose to tailor automobiles to their own specification and accelerate design process (Shropshire: page 3; Alibozek: page 89).

20. **Claims 19, 22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shropshire in view of Alibozek, further in view of Yamashita, even further in view of Yoon, even further in view of Ozaki (US 7200537 B2)**

21. As per claim 19, Shropshire discloses a method according to claim 9, Ozaki teaches wherein the displaying in the first view includes a first compass as the guide (see at least Ozaki, Fig. 2, wherein the head of car acts as a compass showing), and the displaying in the second view includes a second compass to indicate how to orient the single zone (see at least Ozaki, Fig. 20, wherein the orientation can be easily determined because the base and direction arrow presented)

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the displaying in the first view includes a first compass, and the displaying in the second view includes a second compass to indicate how to orient the single zone as the guide as taught by Ozaki in the method of Shropshire, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

22. As per claim 22, Shropshire discloses a computer readable storage medium according to claim 15, Ozaki teaches wherein the displaying in the first view includes a first compass as the

guide (see at least Ozaki, Fig. 2, wherein the head of car acts as a compass showing), and the displaying in the second view includes a second compass to indicate how to orient the single zone (see at least Ozaki, Fig. 20, wherein the orientation can be easily determined because the base and direction arrow presented)

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the displaying in the first view includes a first compass, and the displaying in the second view includes a second compass to indicate how to orient the single zone as the guide as taught by Ozaki in the method of Shropshire, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

23. As per claim 25, Shropshire discloses a device according to claim 16, Ozaki teaches wherein in the first view, the display includes a first compass as the guide (see at least Ozaki, Fig. 2, wherein the head of car acts as a compass showing), and in the second view, the display includes a second compass to indicate how to orient the single zone (see at least Ozaki, Fig. 20, wherein the orientation can be easily determined because the base and direction arrow presented)

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the displaying in the first view includes a first compass, and the displaying in the second view includes a second compass to indicate how to orient the single zone as the guide as taught by Ozaki in the method of Shropshire, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed

the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

24. **Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shropshire in view of Alibozek, further in view of Yamashita, even further in view of Yoon, even further in view of Ida (US 6276477 B1).**

25. As per claim 29, Shropshire discloses a method according to claim 9, but does not explicitly disclose wherein the plurality of zones include a right front fender, a left front fender, a right rear fender, a left rear fender, a right front door, a left front door, a right rear door and a left rear door of the vehicle, and the single zone is the left front door.

Ida teaches wherein the plurality of zones include a right front fender, a left front fender, a right rear fender, a left rear fender, a right front door, a left front door, a right rear door and a left rear door of the vehicle, and the single zone is the left front door (see at least Ida, Fig. 6, wherein a vehicle is dividing into zones including a right front fender, a left front fender, a right rear fender, a left rear fender, a right front door, a left front door, a right rear door and a left rear door of the vehicle and that how left front door will be connected is also shown).

One of ordinary skill in the art would have recognized that applying the known technique of Ida to Shropshire would have yielded predictable results and resulted in an improved system. It would have been recognized that applying the technique of Ida to the teaching of Shropshire would have yielded predictable results because the level of ordinary skill in the art demonstrated by the references applied shows the ability to incorporate such process. Further, applying specifying zones into different parts of vehicle and the first zone is left front door to Shropshire

would have been recognized by one of ordinary skill in the art as resulting in an improved system that would allow better visualization on how different parts will be situated to one another for each vehicle model/type.

26. Response to Argument

27. Regarding Applicant's argument directed to rejection under 35 USC 103

28. **Applicant's arguments have been fully considered but are moot in view of the new ground(s) of rejections**

29. Applicant's argument is moot in view of new prior art Ida and Yoon

30. Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Chen whose telephone number is (571)270-5499. The examiner can normally be reached on Mon-Thu 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on (571)272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G.C./

/JOHN W HAYES/
Supervisory Patent Examiner, Art Unit 3628